***FUNCTIONS REVIEW – Round Robin***

1. **Function Notation**

Function notation just means that instead of writing y=, we write . They mean the same thing, we just write it differently. And  is better because it can give us more information!

“” is read out loud as “f of x”. It means that you are plugging in x values and getting out  or y-values.

To evaluate a function for a given x-value, plug in the given number EVERYWHERE you see an “x”.

**Example:** . Find .

* Find  is telling you to replace all of the x-values with 2 and simplify.

So , and you’re all done!



This means the point (2,21) is on the graph of *f(x)*!

**Example:** . Find .

* Find  is telling you to replace all of the x-values with 2 and simplify.



**YOU TRY: Show work!**

**1**. . Find . **2.** . Find .

**3.** If , find . **4.** If , find .

**5.** If  and, find. **6**. If  and, find

**7.** If , find . **8.** If , find .

1. **Combining with Arithmetic Operations**

**Adding:** 

* You literally just put a “+” in between the functions and then combine like terms.
* Don’t make it harder than it needs to be!!

Example: If  and  then



**Subtracting:** 

* Put a “-“ in between the functions and put your second function in parentheses!! Then distribute the negative and, lastly, combine like terms.

Example: If and  then

 and 

**Multiplying:** 

* You just multiply the functions and then simplify by distributing.
* Be sure to put functions with more than one term in parentheses and double distribute/FOIL/box method if you need to!

Examples: If  and  then If  and  then

**YOU TRY: Show work!**

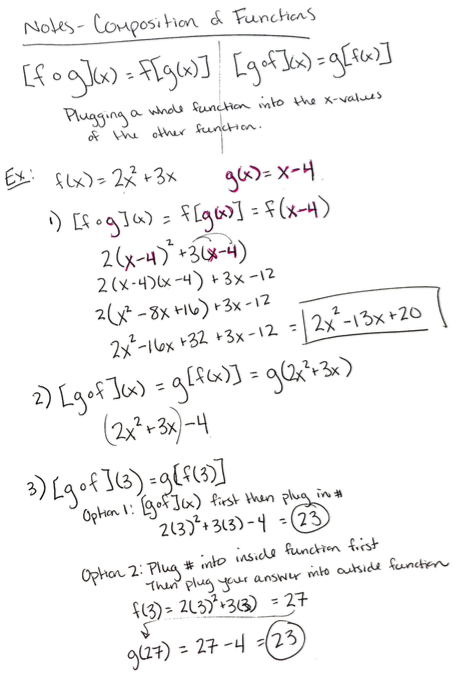
**1**. Find . **2.** Find . **3.** Find .

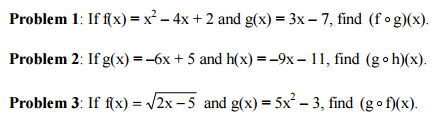
**5**. Find . **5.** Find . **6.** Find .

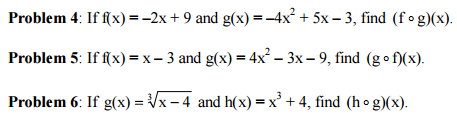
**7**. Find . **8.** Find . **9.** Find .

**10**. Find . **11.** Find . **12.** Find .

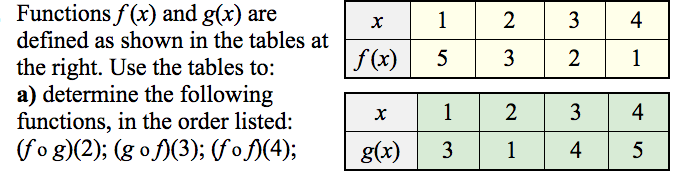
1. **Composition of Functions**

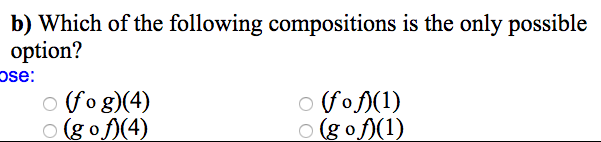


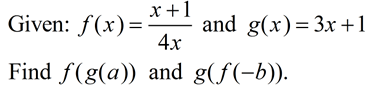
**YOU TRY: Show work!**

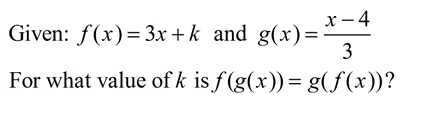
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**Problem 7:**

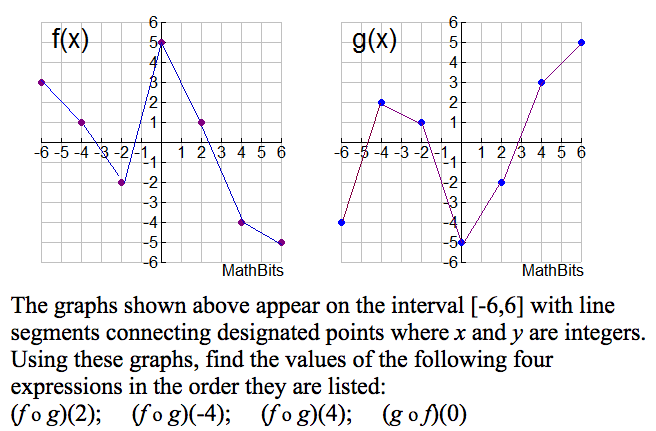




**Problem 8:**

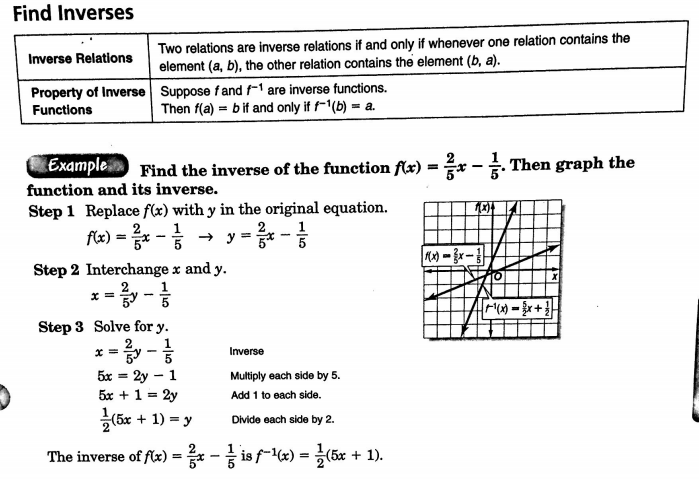


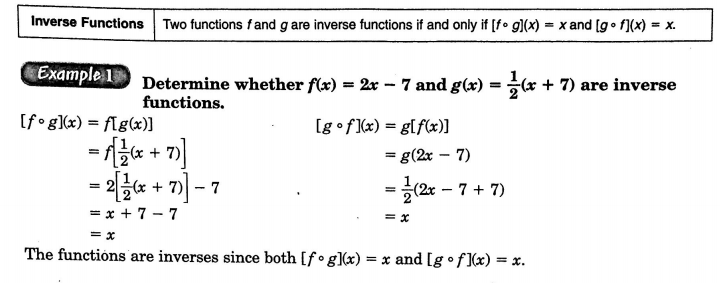
**Problem 9:**

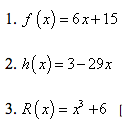


**Problem 10:**

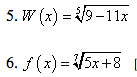
1. **Inverse Functions**

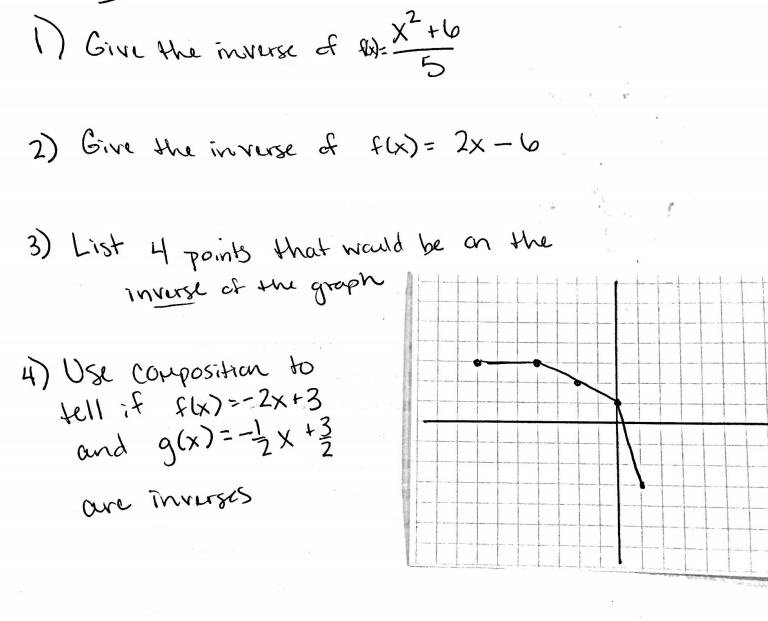


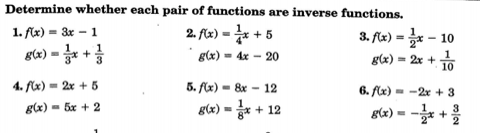


**YOU TRY: Show work!**Find the inverse of each:

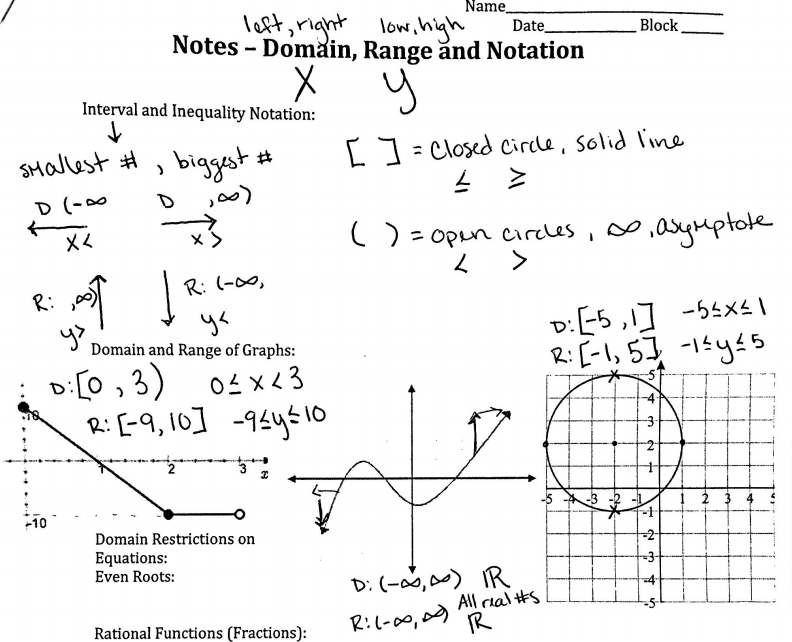








1. **Domain and Range from a Graph**



**YOU TRY:**

1. Write each of the following in interval notation.

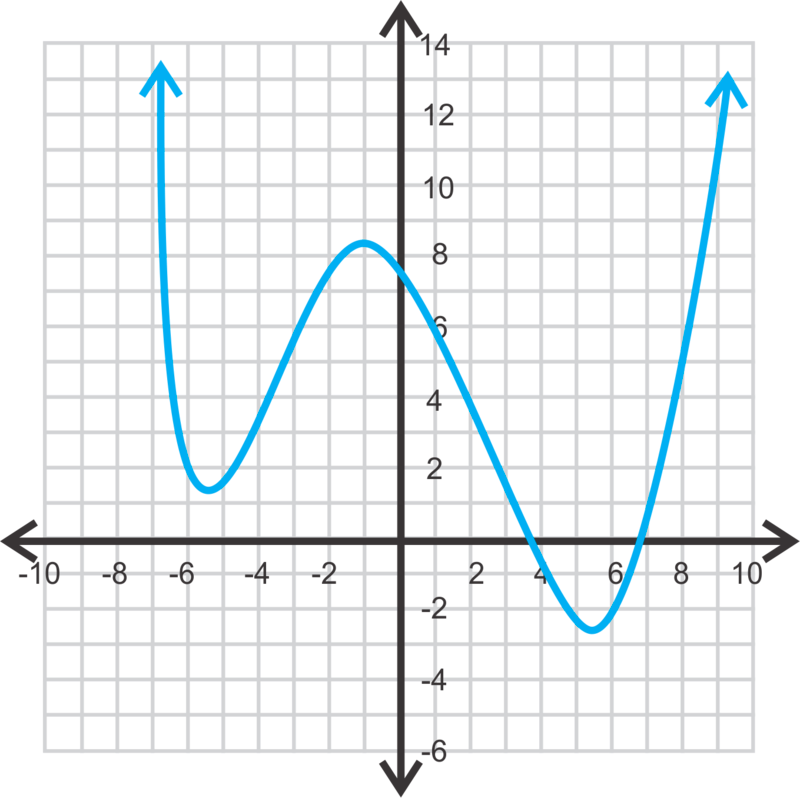
A.  B.  C.  D. E. 

F.  G.  H.  I.  J. 

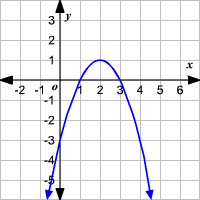
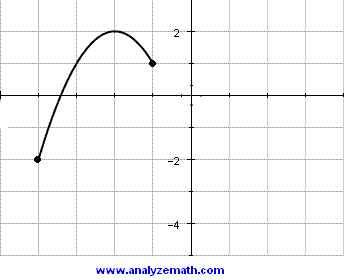
2. Write each of the following with inequalities notation.

A.  B.  C.  D.  E. 

F.  G.  H.  I.  J. 

 Find the domain and range of the following graphs:

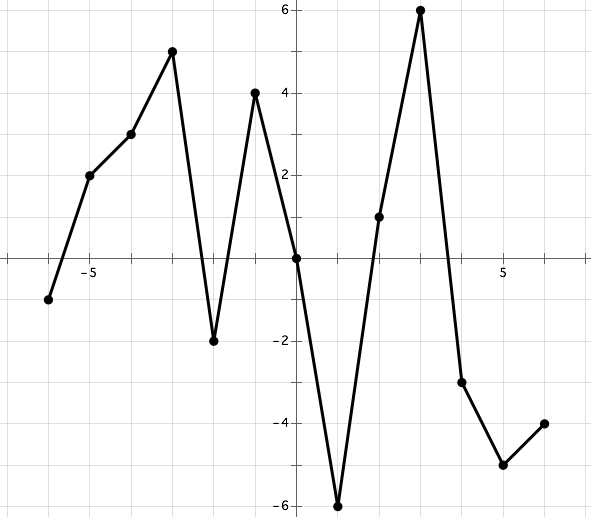
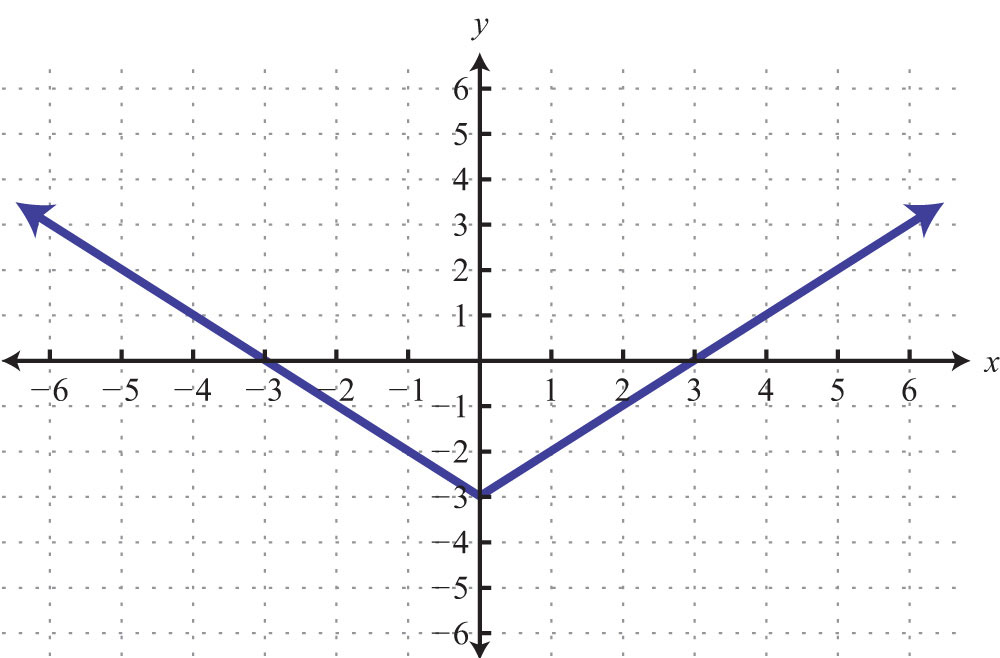
**3. 4. 5.**



D: D: D:

R: R: R:

**6. 7.**

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D: D:

R: R:

Draw a graph that has the given domain and range.

**8. 9. 10.**

D:  D:  D: 

R:  R:  R: 

